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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,363	12/22/2000	Tomoo Yamaguchi	Q62262	8173
7590 04/21/2004			EXAMINER	
SUGHRUE MION, ZINN, MACPEAK & SEAS, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037			AHMED, SHEEBA	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/742,363

### Applicant(s)

YAMAGUCHI ET AL.

### Examiner

Sheeba Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Response to Amendment*

1. Claims 1, 6, 15, and 18 have been amended in the above-identified application.

Claims 8 and 17 have been cancelled. **Claims 1-7, 10-16, and 18 are now pending.**

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sashihara et al. (US 6,251,517 B1) in view of Southwick et al. (US 5,776,998).

Sashihara et al. disclose a pressure sensitive adhesive (PSA) composition comprising 100 parts by weight of natural rubber, 50 parts by weight of terpene-phenolic resin and 40 parts by weight of an isocyanate hardening agent having three functional groups (See Examples 1 and 2). The PSA composition may be prepared as a coating liquid and applied to a support sheet and dried to produce a PSA sheet (Column 7, lines 36-45). The thickness of the coated PSA layer may be 30 microns after drying (See Example 1). Example 1 states that a mixture of n-butyl methacrylate and the polymerization initiator was added to the natural rubber, which was already kneaded by a pressure kneader, and then latex polymerization reaction was performed at 80°C.

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Sashihara et al. do not specifically state that the process of making their pressure sensitive adhesive does not use a solvent.

However, Southwick et al. teach processes for making adhesives by shearing a mixture of a photoinitiator and a polymer formulation so that an effectively cured adhesive film is produced with a thickness of up to an inch or more and further teach that the use of non-aqueous solvents is undesirable because of environmental hazards and the cost of non-aqueous solvent removal (Column 1, lines 39-49).

Accordingly, it would have been obvious to one having ordinary skill in the art to make the pressure sensitive adhesive composition taught by Sashihara et al. without the use of solvents given that Southwick et al. specifically teach that the use of non-aqueous solvents is undesirable because of environmental hazards and the cost of non-aqueous solvent removal. With regards to the limitation that the kneading or mixing time is 5-40 minutes, the Examiner takes the position that it would have been obvious to increase the mixing time to ensure proper mixing of all reactants. With regards to the limitation that the natural rubber has a Mooney viscosity of 20 to 100, i.e., claim 3, the Examiner takes the position that the rubber disclosed by Sashihara et al. inherently meets such a limitation given that the chemical composition and structure of the rubber disclosed by Sashihara et al. and that of the claimed invention are identical.

3. Claims 10-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sashihara et al. (US 6,251,517 B1) in view of Southwick et al. (US 5,776,998) and Applicants own admission.

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Sashihara et al. and Southwick et al., as discussed above, do not specifically teach that the PSA composition is applied to a substrate via calendaring or extrusion coating.

However, the Applicants, on Page 1 of the Specification, specifically state that it is known to apply a PSA composition on a substrate via a calender roll coater, extruder or the like.

Hence, the Examiner takes the position that it would have been obvious to one having ordinary skill in the art to apply the PSA composition disclosed by Ogawa to a substrate via calendaring or extrusion coating given that the Applicants admit that it is known in the art to apply a PSA composition to a substrate via calendaring or extrusion coating. With regards to the limitation that the kneading or mixing time is 5-40 minutes, the Examiner takes the position that it would have been obvious to increase the mixing time to ensure proper mixing of all reactants. With regards to the limitation that the natural rubber has a Mooney viscosity of 20 to 100, i.e., claim 12, the Examiner takes the position that the rubber disclosed by Sashihara et al. inherently meets such a limitation given that the chemical composition and structure of the rubber disclosed by Sashihara et al. and that of the claimed invention are identical.

### ***Response to Arguments***

4. Applicant's traverse the rejection of claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over Sashihara et al. (US 6,251,517 B1) in view of Southwick et al. (US 5,776,998) and the rejection of claims 10-16 and 18 under 35 U.S.C. 103(a) as being

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unpatentable over Sashihara et al. (US 6,251,517 B1) in view of Southwick et al. (US 5,776,998) and Applicants own admission and submit that the combination of Sashihara et al. and Southwick result in a mixture different from the claimed invention. Applicants assert that the crosslinking reaction in Southwick does not occur merely by mixing a polymer and a photoinitiator whereas the present invention requires kneading at a specific temperature and at a specific time. Applicants state that Southwick uses a ultrasonic wave or a high shear rate method whereas the present invention requires kneading.

However, the Examiner disagrees. First, the term "kneading" is simply defined as "to manipulate and form into a mass" and hence the mixing taught by Southwick meets the definition of kneading. Second, the claimed invention does not require that the crosslinking reaction occur merely by mixing a polymer and a photoinitiator and hence does not preclude the use of ultrasonic wave or a high shear rate method.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not


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mailed until after the end of the THREE-MONTH shortened statutory period; then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (571)272-1504. The examiner can normally be reached on Mondays and Thursdays from 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (571)272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

  
Sheeba Ahmed  
Art Unit 1773  
April 18, 2004